**WE CLAIM**

1. A catalyst composition for polyolefin production comprising:

(A) a solid catalyst component comprising a transition metal-containing metallocene compound, a transition metal-containing non-metallocene compound, a magnesium compound and a polymeric material, and

(B) a cocatalyst comprising an aluminum compound.

2. The catalyst composition of Claim 1 produced by a process comprising:

combining polymer particles, magnesium compound, transition metal-containing metallocene compound and transition metal-containing non-metallocene compound to provide a a solid catalyst component; and

combining the solid catalyst component with cocatalyst compound to provide a catalyst composition.

3. The catalyst composition of Claim1 wherein the production of olefins comprises homopolymerization of olefins and copolymerization of olefins with alpha-olefins

4. The catalyst composition of Claim 1 wherein the metallocene compound is represented by the general formula $(Cp)_zMR_wX_y$ wherein Cp represents unsubstituted or substituted cyclopentadienyl ring, M represents a Group IVB or VB transition metal, R represents a

hydrocarbyl group containing 1 to 20 carbon atoms, X represents a halogen atom, and $1 \leq z \leq 3$, $0 \leq w \leq 3$, $0 \leq y \leq 3$.

5. The catalyst composition of Claim 1 wherein the transition metal comprises titanium, zirconium or vanadium.

6. The catalyst composition of Claim 4 wherein the metallocene compound is bis(cyclopentadienyl)zirconium methyl chloride, bis(cyclopentadienyl)zirconium dichloride, bis(cyclopentadienyl)titanium methyl chloride or bis(cyclopentadienyl)titanium dichloride.

7. The catalyst composition of Claim 4 wherein the cyclopentadienyl ring is substituted with a hydrocarbyl group of alkyl, alkenyl or aryl, said hydrocarbyl group containing 1 to 20 carbon atoms.

8. The catalyst composition of Claim 7 wherein the hydrocarbyl group comprises methyl, ethyl, propyl, amyl, isoamyl, isobutyl or phenyl.

9. The catalyst composition of Claim 1 wherein the non-metallocene compound comprises titanium tetrachloride, zirconium tetrachloride and/or vanadium tetrachloride.

10. The catalyst composition of Claim 1 wherein the polymer particles have a mean particle diameter of 500 to 10000 μm, a pore volume of at least 0.1 $cm^3/g$ and a surface area of from 0.2 $m^2/g$ to 15 $m^2/g$.

11. The catalyst composition of Claim 10 wherein the polymer particles comprise polyolefins, polyvinylchloride, polyvinylalcohol or polycarbonate.

12. The catalyst composition of Claim 11 wherein the polymer particles are polyvinylchloride.

13. The catalyst composition of Claim 12 wherein the polyvinylchloride particles are spherical in shape.

14. The catalyst composition of Claim 1 wherein the composition has a Ti:Zr molar ratio of about 3:1 to about 30:1.

15. The catalyst composition of Claim 1 wherein the magnesium compound comprises a reagent with a chemical formula $R_aMgX_{2-a}$ wherein R is a hydrocarbyl group having 1 to 20 carbon atoms, X is a halogen or an alkyl group and a is 0, 1, or 2.

16. The catalyst composition of Claim 15 wherein the magnesium compound comprises diethylmagnesium, dibutylmagnesium, butylethylmagnesium, dihexylmagnesium, butyloctylmagnesium, ethylmagnesium chloride, butylmagnesium chloride, hexylmagnesium chloride or mixtures thereof.

17. The catalyst composition of Claim 1 wherein the cocatalyst (B) aluminum compound is represented by the general formulas $R^6_nA1X_{3-n}$ and $R^7R^8Al\text{-}O\text{-}AlR^9_2$, wherein $R^6$, $R^7$, $R^8$ and $R^9$ each independently represent a hydrocarbyl group having 1 to 10 carbon atoms; X represents a halogen atom and n represents a number satisfying $0 \leq n \leq 3$.

18. The catalyst composition of Claim 17 wherein the cocatalyst (B) aluminum compound comprises a mixture of trialkylaluminum and an alkyl alumoxane.

19. The catalyst composition of Claim 18 wherein the trialkylaluminum is trimethylaluminum, triethylaluminum, triisobutylaluminum or tri n-hexylaluminum.

20. The catalyst composition Claim 18 wherein the alkyl alumoxane is methyl aluminoxane or modified methyl aluminoxane.

21. The catalyst composition of Claim 1 wherein the catalyst composition comprises an amount of cocatalyst (B) to provide a ratio of moles of aluminum in the cocatalyst to moles of titanium in the solid catalyst component of 10 to 1500.

22. The catalyst composition of Claim 1 wherein the alpha-olefins are propylene, 1 -butene, 1-pentene, 1-hexene, 1-heptene or 1-octene or mixtures thereof.

23. A process for olefin polymerization comprising contacting said olefin with a catalyst composition comprising (A) a solid catalyst component comprising a transition metal-containing metallocene compound, a transition metal-containing non-metallocene compound, a magnesium compound and a polymeric support material, and (B) a cocatalyst comprising an aluminum compound, said contacting occurring under conditions sufficient for the production of olefin polymers.

24. The process of Claim 23 wherein the olefin polymers comprise homopolymers of olefins or copolymers of olefins and alpha olefins.

25. The process of Claim 24 wherein the olefin polymers are multimodal.

26. A process for preparing an olefin polymerization catalyst composition comprises combining support polymer particles, magnesium compound, transition metal-containing

metallocene compound, and transition metal-containing non-metallocene compound, to provide a solid catalyst component, and combining the solid catalyst component with cocatalyst compound to provide an olefin polymerization catalyst composition.

27. The process of Claim 25 wherein the solid catalyst component is prepared in substantial absence of aluminum compound before combining with said cocatalyst compound.